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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,458	09/26/2003	Timo Tokkonen	852.0023.U1(US)	9731

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EXAMINER	
LONG, ANDREA NATAE	
ART UNIT	PAPER NUMBER
2175	
MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/672,458	TOKKONEN, TIMO	
	Examiner	Art Unit	
	Andrea N. Long	2175	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 December 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,6,7,10-12,16,17,19,20,22 and 23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,6,7,10-12,16,17,19,20,22 and 23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/24/2009 has been entered.

Applicant's Response

In Applicant's Responses dated 12/24/2009, Applicant amended claims 1, 6, and 11, cancelled claims 15, 18, 21, and argued against all objections and rejections previously set forth in the Office Action dated 07/31/2009.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3, 6-7, 10-12, and 16, 17, 19, 20, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Venolia et al. (US Patent 6573844 B1), hereinafter "Venolia" in view of Comerford et al. (US Patent 5963671), hereinafter

"Comerford" in further view of Shimada et al. (US Patent 7136047 B2), hereinafter "Shimada".

For the convenience of the Applicant, the Examiner has pointed out particular references contained in the prior art(s) of record in the body of this action. Although the specified citations are representations of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. The Applicant should consider the entire reference(s) as applicable as to the limitations of the claims.

As to independent claim 1, Venolia teaches a method comprising:

receiving a separate information unit entered with input elements of a dynamic I/O arrangement belonging to a user interface of an electronic device (column 5 lines 54-56, column 5 line 63 through column 6 line 9)

identifying after each input the entered information unit and determining based on probability which information units will likely be input next (column 6 lines 44-45); and,

emphasizing by size the input elements corresponding to the information units likely to be entered next in the user interface of the electronic device, wherein the size of the emphasized input elements are determined on a case-specific basis depending on the probability of the information unit associated with the input element being entered next (column 6 lines 44-59, Fig. 4, column 7 lines 15-23). Venolia provides indication of relative probability of an order of information units likely to be entered next. Additionally Venolia teaches entering separate information units in a composition activity (Fig. 3). Venolia teaches decreasing in size any input elements not included in the group of input elements increased in size by an equal amount (Fig. 4 – key not enlarged are displayed smaller and therefore in a decreased state in relation to the enlarged keys.). However

Venolia uses arrangement of units instead of varying the size of the units to portray the respective probability and does not explicitly teach determining modes or wherein the separate information unit corresponds to a first character entered in a composition activity.

Comerford, which is in the same field of endeavor of quicker user selection of input units, also uses an enhancement method to visually depict next likely units. Comerford provides reasonable suggestion to one skilled in the art that the keys that are most likely to be selected next can vary in size dependent upon the order of probability (column 3 lines 64-67 “degree of emphasis”, column 13 lines 1-9). Comerford also teaches entering separate information units in a composition activity (Fig. 3).

Shimada teaches wherein the separate information unit corresponds to a first character entered in a composition activity (column 2 lines 56-60, Fig 7 – the groups correspond to the character set which is displayed for user selection for typing in a word processing document). Shimada which facilitates quicker selection of input units teaches automatically determining from the identity of the separate information unit whether input is in a first mode or a second mode (column 2 lines 56-60 – taught as a user selecting an appropriate mode for which the user wants the input units to be displayed, those modes can consist of numbers and the English alphabet),

wherein when it is determined that the input entry is in a first mode, increasing in an equal amount size of members of a group of input elements (column 2 lines 56-64, Figures 4C and 4D). Therefore Shimada provides for a user to select a mode and

display only characters corresponding to that mode on the display in a larger fashion that they would typically need to be if each character were to be constantly displayed on the screen for selection.

Therefore it would have been obvious to one skilled in the art at the time the invention was made to have included the additional step of varying the sizes of keys likely to be entered next as suggested by Comerford with the enlarging of keys of Venolia to provide a detailed visual depiction of the order of probability of each key likely to be entered next and in addition to the displayed grouping of characters in modes of Shimada to facilitate quicker and more efficient selection.

As to dependent claim 2, Venolia teaches wherein the input of the information unit is fulfilled by a press of a separate key belonging to the user interface (column 6 lines 4-9).

As to dependent claim 3, Venolia teaches where the dynamic I/O arrangement comprises a touch display or a projection keyboard (column 5 lines 26-27, Figure 2 reference character 404, “soft keyboard”).

As to independent claim 6, Venolia teaches a memory configured to save information (Fig. 1, reference character 22);

a user interface configured to display a plurality of input elements, each of the input elements corresponding to an information unit (Fig. 3 column 5 line 63-column 6 line 9);

an input control configured to receive selections of information units selected using the input elements displayed by the user interface (column 5 lines 54-56, column 5 line 63 through column 6 line 9);

a control unit coupled to the memory, user interface, and input control, the control unit configured to identify after each input an entered information unit; to determine based on probability which information units will likely be entered next; and to cause the user interface to emphasize by size the input elements corresponding to the information units likely to be entered next, wherein the size of the emphasized input elements are determined on a case-specific basis depending on the probability of the information unit associated with the input element being entered next (Fig. 1, Fig. 4, column 6 lines 44-59, column 7 lines 11-15). Additionally Venolia teaches entering separate information units in a composition activity (Fig. 3). Venolia teaches decreasing in size any input elements not included in the group of input elements increased in size by an equal amount (Fig. 4 – key not enlarged are displayed smaller and therefore in a decreased state in relation to the enlarged keys.). However Venolia uses arrangement of units instead of varying the size of the units to portray the respective probability and does not explicitly teach determining modes or wherein the separate information unit corresponds to a first character entered in a composition activity.

Comerford, which is in the same field of endeavor of quicker user selection of input units, also uses an enhancement method to visually depict next likely units. Comerford provides reasonable suggestion to one skilled in the art that the keys that are most likely to be selected next can vary in size dependent upon the order of probability (column 3 lines 64-67 “degree of emphasis”, column 13 lines 1-9). Comerford also teaches entering separate information units in a composition activity (Fig. 3).

Shimada teaches wherein the separate information unit corresponds to a first character entered in a composition activity (column 2 lines 56-60, Fig 7 – the groups correspond to the character set which is displayed for user selection for typing in a word processing document). Shimada which facilitates quicker selection of input units teaches automatically determining from the identity of the separate information unit whether input is in a first mode or a second mode (column 2 lines 56-60 – taught as a user selecting an appropriate mode for which the user wants the input units to be displayed, those modes can consist of numbers and the English alphabet),

wherein when it is determined that the input entry is in a first mode, increasing in an equal amount size of members of a group of input elements (column 2 lines 56-64, Figures 4C and 4D). Therefore Shimada provides for a user to select a mode and display only characters corresponding to that mode on the display in a larger fashion that they would typically need to be if each character were to be constantly displayed on the screen for selection.

Therefore it would have been obvious to one skilled in the art at the time the invention was made to have included the additional step of varying the sizes of keys likely to be entered next as suggested by Comerford with the enlarging of keys of Venolia to provide a detailed visual depiction of the order of probability of each key likely to be entered next and in addition to the displayed grouping of characters in modes of Shimada to facilitate quicker and more efficient selection.

As to dependent claim 7, Venolia teaches where the input elements are defined by an area on a touch display or a projection keyboard (column 5 lines 26-27, Fig. 2 reference character 404, “soft keyboard”).

As to dependent claim 10, Venolia teaches wherein the electronic device is a cellular terminal or PDA (column 5 line 39-41).

As to independent claim 11, claim 11 incorporates substantially similar subject matter as claimed in claim 1 and is rejected along the same rationale.

As to dependent claim 12, is rejected under the same rationale as claim 2.

As to dependent claims 16, 19, and 22, note the discussion above, Venolia, Comerford and Shimada all teach a version of making input units that are likely to be

picked larger or input elements that correspond to a group larger than normally displayed on a screen. Venolia teaches decreasing in size any input elements not included in the group of input elements increased in size by an equal amount (Fig. 4 – key not enlarged are displayed smaller and therefore in a decreased state in relation to the enlarged keys.).

As to dependent claims 17, 20, and 23, Venolia, Comerford and Shimada all teach the use of efficient selecting of input units in some type of wireless device such as a cell phone or PDA. While the references are silent to wherein the first mode corresponds to a telephone number entry mode, mode switching, in cell phones and PDA have been around since the late 90's for taken into consideration the need for faster input and selection by a user. It would have been obvious to one skilled in the art to have included a grouping of characters which constitute numbers in the teachings of Shimada as a telephone number entry mode in conjunction with the probability and predicting of Venolia and Comerford for accelerated selection of input units.

Response to Arguments

Applicant's arguments with respect to claims 1, 6, and 11 have been considered but are not persuasive.

Applicant asserts that the references fail to teach "decreasing in size any input elements not included in the group of input elements increased in size by an equal amount".

The Examiner disagrees.

In Figure 4 of Venolia and Figure 2 of Comerford the user interface shows enlarged keys with non-enlarged keys. The non-enlarged keys are decreased in size in relation to the enlarged keys. While Applicant argues that the claim language precludes this interpretation, the Examiner disagrees in that the claim language does not recite a feature wherein the decrease in size is from the original size of the keys. Therefore the Examiner interpretation is reasonable in view of the recited claim language.

The bulk of the Applicant's arguments are directed to the Examiner previous rejection of the claims and the limitation "decreasing in size any input elements not included in the group of input elements increased in size by an equal amount", which is not used in the current rejection of the claims and is therefore moot. It should therefore be noted that the Examiner is using the teachings of Venolia and Comerford as discussed above to teach the limitation "decreasing in size any input elements not included in the group of input elements increased in size by an equal amount".

Applicant asserts that Shimada cannot teach how to modify the combination of Venolia and Comerford to teach the limitation "automatically determining from the identity of a separate information unit corresponding to a first character in a composition activity whether an input entry is in a first mode or a second mode".

The Examiner disagrees.

The claim requires the determination of the first mode or the second mode to be made from the identity of the separate information unit, which corresponds to a first character in a composition activity. Shimada teaches the user selection of the separate information unit will set the mode for the information that is entered into the composition activity. That separate information unit corresponds to the set of inputs that will be entered into the composition activity.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrea N. Long whose telephone number is 571-270-1055. The examiner can normally be reached on Mon - Thurs 6:00 am to 3:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Bashore can be reached on 571-272-4088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrea N Long/
Examiner, Art Unit 2175

/William L. Bashore/
Supervisory Patent Examiner, Art Unit 2175